

Platelet activation, apoptosis, and parameters of endothelial dysfunction in type II diabetes and healthy controls

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Introduction

- The global rise in the prevalence of type II diabetes mellitus has been paralleled by an increase in the incidence of cardiovascular and thrombotic events.
- Platelet hyperactivity and vascular endothelial cell dysfunction have been shown to contribute to cardiovascular and thrombotic events in individuals with type II diabetes mellitus.
- The aim of this study was to investigate platelet activation, platelet apoptosis, parameters of endothelial dysfunction and oxidative status in healthy individuals and individuals suffering from type II diabetes mellitus.

Methodology

- Fourteen voluntary participants were recruited for this study and samples analysed according to Figure 1.

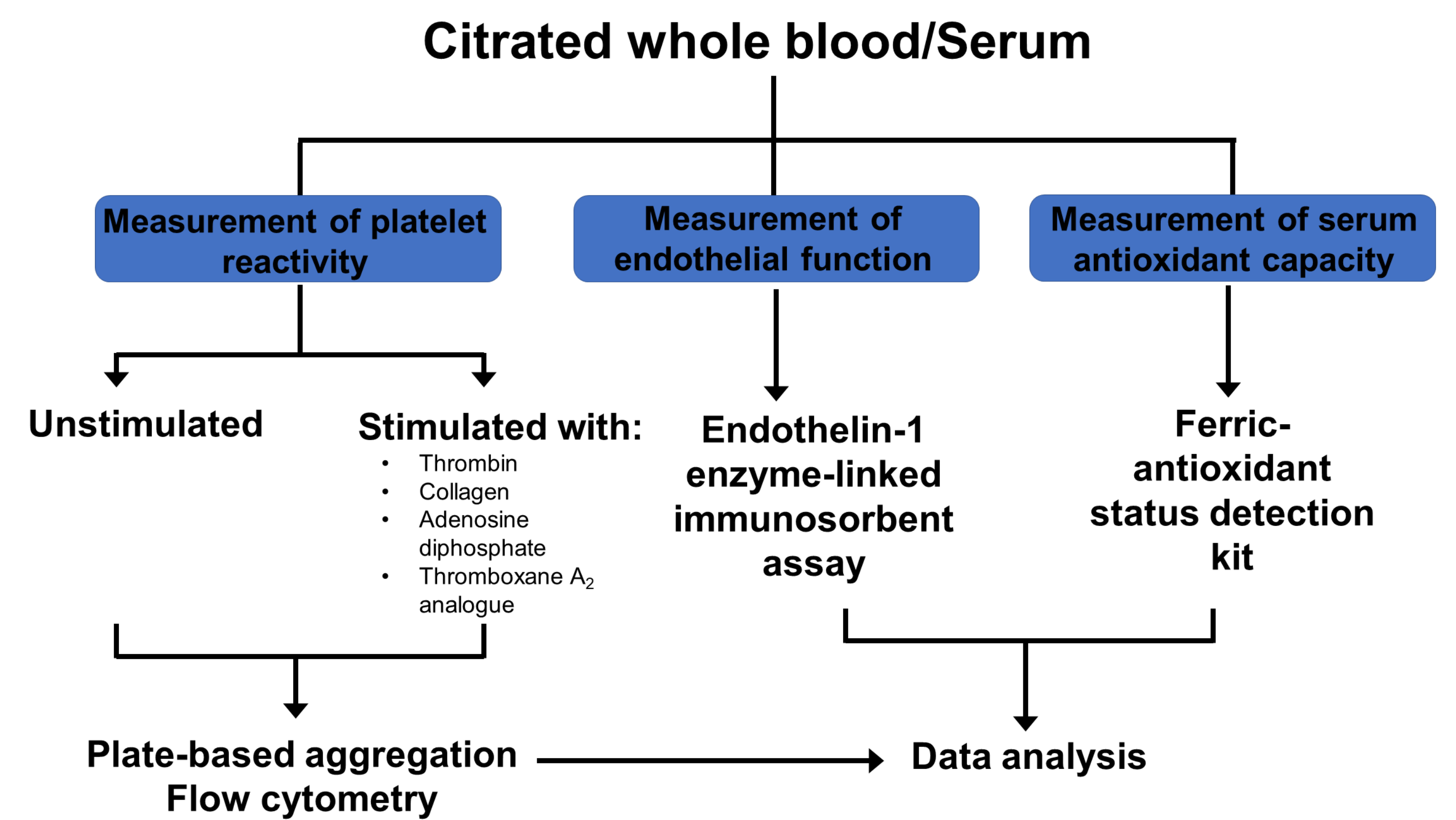
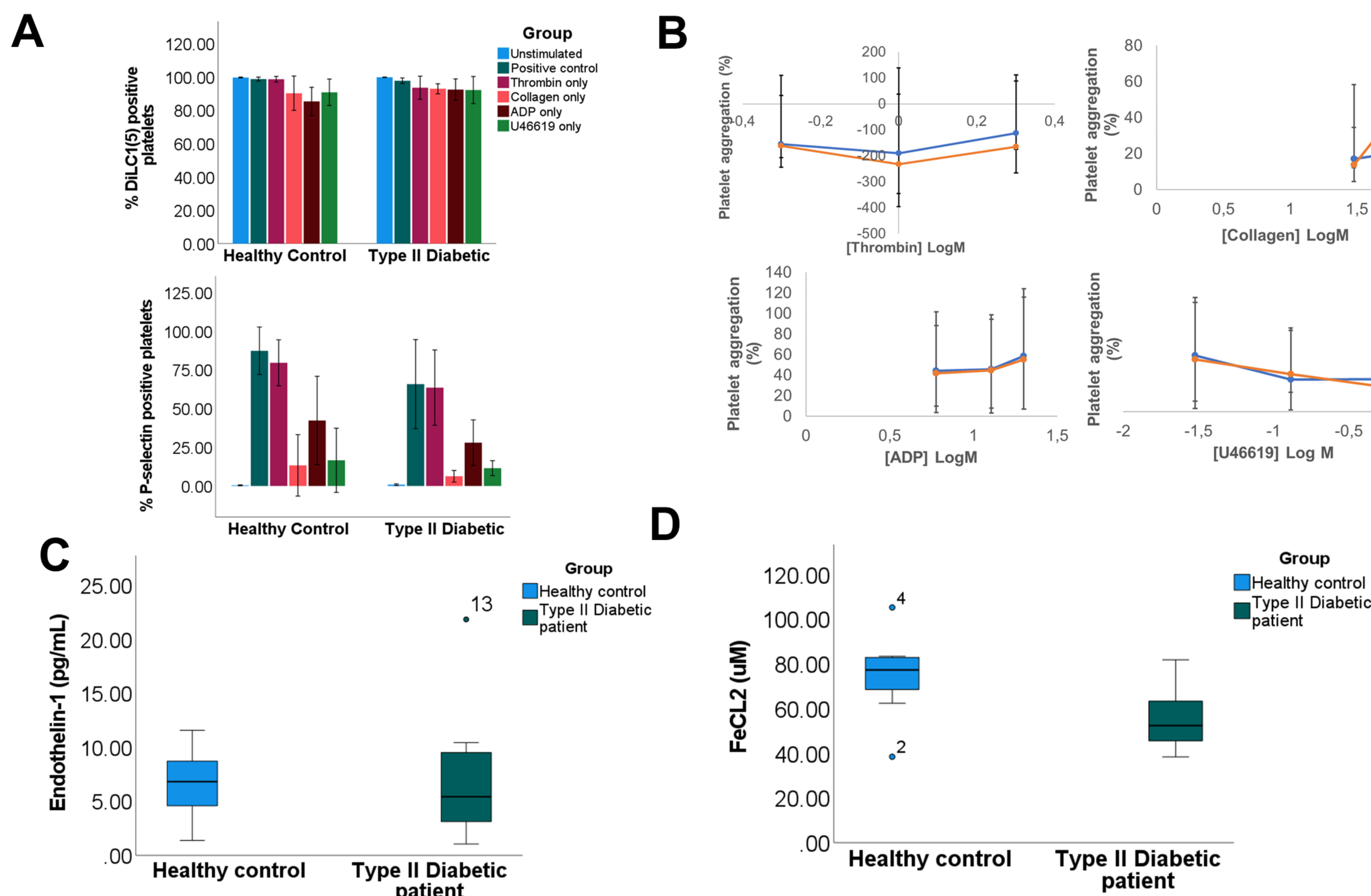


Figure 1: Layout and methodologies for this research study.

Results



- No significant differences were found in the degree of expression of platelet activation and apoptosis markers following agonist stimulation.
- No significant differences were found in the percentage platelet aggregation in response to various agonists.
- The levels of Endothelin-1 and antioxidant capacity were comparable in both groups.

Conclusion

- Despite type II diabetes mellitus being demonstrated as an inflammatory and prooxidative state associated with the damage, activation and premature apoptosis of platelets and endothelial cells, results from the present study show similar platelet, endothelial and oxidative status in both groups.

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References

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